

**Discussant presentation for  
Chen et al., “The socioeconomic impact of land use  
policy and metro investment in urban India”**

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# Overall observations of the presentation

- Very important research question:
  - How FAR relaxation may improve the effect of transport investments
  - FAR relaxation and infrastructure investment may synergistically unlock urban development (e.g., TOD)
- However, the dynamics that the authors want to describe are highly complex (i.e., multiple variables affect each other in a non-linear, bi-directional manner)
  - Behavior of households, businesses, housing market to relaxing the FAR in the short term and long term are unknown.
    - Do they relocate? What is the impact of such relocation? Do such behavior have cascading effects?
  - How do we anticipate such behavior? Are stated preferences using a survey enough?
- The “simulation” the authors use is not described fully in the slides, however, understanding this complex problem will require a systems-based model (e.g., system dynamics model, dynamical equilibrium model, ...)
  - The solution/approach of the authors seem to disregard such complex dynamics ...

# Model assumptions and dynamics were not clear

- The methodology used in the simulation was not fully explained in the slides

Some questions to understand the results better:

- How do you simulate the changes in urban mobility patterns, economic benefits, etc given the alternative urban form as the input?
- What are the assumed dynamics in the simulation?
  - How would the distribution of jobs change due to the change in urban form? Also considering the disparity in the quality of jobs?
  - How would the residential distribution change when we unlock FAR regulations? Is there an underlying housing market model to simulate the relocation of households?

# Considering the costs of vertical expansion

- Benefits vs costs need to be assessed to conclude that relaxing FARs could greatly enhance economic returns.
- How do you compute the additional **costs (or externalities)** of building vertically and additional infrastructure systems for maintaining livability in the dense urban areas?
  - Regulatory frameworks may be inadequate to enable vertical urban development in Indian cities
  - Environmental safeguards? Pollution and congestion in urban areas
  - Social safeguards to compensate for relocation?
    - Land prices rise in city center, people need to live in suburbs with longer commute time

# Considering other dimensions of urban development (e.g., inclusiveness)

- Gentrification is often a result of rapid urban development
- What are the social costs for gentrification and increased social segregation?



# Use of mobile phone data to understand urban segregation

- Using mobility data, we can quantify how wealthy and poor people encounter in urban areas.
  - “segregation” = when wealthy (poor) people only meet wealthy (poor) people



<https://inequality.media.mit.edu/>

# World Bank report on vertical growth

## Data-driven approach compared to counterfactual



The screenshot shows the World Bank website header with navigation links: WHO WE ARE, WHAT WE DO, WHERE WE WORK, UNDERSTANDING POVERTY (highlighted), WORK WITH US, and COVID-19. Below the header is a breadcrumb trail: Understanding Poverty / Topics / Urban Development. The main content area features the publication date 'PUBLICATION | JUNE 2, 2021' and the title 'Pancakes to Pyramids: City Form to Promote Sustainable Growth'. A large graphic below the title depicts a green wireframe landscape with a diagonal banner reading 'pancakes to pyramids'. The banner shows a flat pancake on the left and a tall pyramid on the right. Below the graphic is a short paragraph: 'Supported by empirical analysis of the shape and growth of nearly 10,000 cities around the world and rigorous economic modeling, "Pancakes to Pyramids: City Form to Promote Sustainable Growth," helps us understand the drivers of city growth.' At the bottom left of the page is the text '2021 | World Bank Group'.

Data driven approach, using data from >100 cities across developing and developed countries.

<-> different from a counterfactual modeling approach, which could be very complex

# Summary of discussions

- Very important research topic and questions
- Complexity of questions and dynamics may be underestimated
  - More details on the methodology is needed for me to make more concrete suggestions
  - Model assumptions?
- Considering the costs and externalities of vertical expansion
  - Urban segregation, gentrification, environmental pollution, ...
  - WB report could be helpful in painting a more comprehensive picture
- More generally, what is preventing FAR relaxation in Indian cities?
  - My hunch – factors other than economic productivity; e.g., politics

Thank you!

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